

Soil Notes / Presentation and Lab,  
3.3 page 97-99 Section



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Soil Formation

- A thin layer of soil, rarely more than 2 m thick and often much thinner provides nutrients for ALL plants that grow on land.
- Soil is formed by bed rock or parent material which moves to the surface of the earth and is weathered by wind, rain and snow.
- Decomposition of organic plant matter mixing with the small within soil horizons weathered particles create layers or
- Surface water accumulates above ground and ground water down below the surface. Percolation contributes to percolates of minerals away from the surface. leaching
- Soil formation can be dependant on the type of forest mixed, coniferous or deciduous
- It is a continual process that can last hundreds or thousands of years.

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Soil Samples

- Soil samples are taken to determine the soil types in an . area
- Several samples will be taken over a number of years to:
- Monitor changes in soil quality
  - Assist in city planning for development and housing
  - Plan for highway construction
  - Plan for tree plantations and land reclamation.

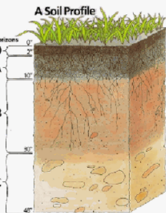


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Soil Horizons

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil forming processes.

Used to classify the soil and make interpretations.



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Soil Profiles / Horizons

- consists of : Organic Horizons
- Litter – L is identifiable plant material
  - Fermenting – F is partially identifiable plant material
  - Humus – H is dark brown/black non identifiable plant material, completely decomposed.
- consist of varying levels of Mineral Horizons leaching with identifiable changes in color, depth, texture, structure and root consistency. of dissolved aluminum and iron cause Leaching
- Orange – Brown – Grey color variations helps determine the sand vs. clay Ribbon Test content.
- A horizon - Transition from Organic
  - B horizon – Orange to brown colors
  - C horizon - Beginning of Parent Material (Bed Rock)



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Lab

Profile You will visit a sample soil pit and fill out the following Soil Descriptions for you site. Envirothon Students will facilitate the lab.

- Canopy and cover – Forest type
- Slope / Site location / Exposure
- Horizons, Organic L -F-H and Mineral A-B-C
- Depth for each horizon measured in cm
- Texture - sand vs. clay content – ribbon test and included descriptions
- Soil Structure – distinct size, shape and consistency
- Root Quantity – size, shape and number
- Color smears for each horizon
- Site sketches

horizons a.  
Location b.

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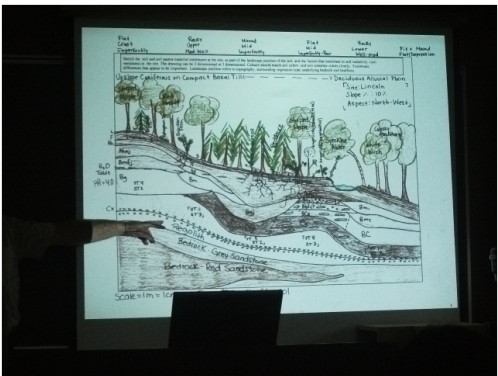
.Lab cont

Procedure – visit the soil pit and complete the above activities, fill out the profile description field lab report and pass in your work.

Knowledge –

- Be able to identify the horizons for a soil sample
- Follow the proper procedures for creating a soil sample
- Properly complete a ribbon test and determine the sand vs. clay content of soil
- Properly complete the field report

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Work

Read pages 97-99  
Answer Understanding Questions 1-6  
Review the Field report sheet and be prepared to go outside for the lab. You will get dirty.

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